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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/311,333	05/13/1999	ROGER SCOTT ZIMMERMAN	5494:57	1111

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PHILIPS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
580 WHITE PLAINS ROAD
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EXAMINER

KNEPPER, DAVID D

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 01/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/311,333

Applicant(s)

ZIMMERMAN ET AL.

Examiner

David D. Knepper

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2002 and 01 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 1-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 15.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Applicant's correspondence filed on 15 October 2002 (paper #13-16) has been received and considered in view of the decision on Petition dated 30 December 2003. Claims 1-17 are pending.

Abstract

2. The Abstract of the Disclosure is objected to because the first sentence is redundant over the rest of the abstract and should be deleted. The use of the term "method" should also be deleted since this can be interpreted as a legalistic term more appropriate to the claims. Correction is required. See M.P.E.P. § 608.01(b).

3. The amendment filed 15 October 2002 (paper #14) and 8 March 2002 (paper #6) is objected to under 35 U.S.C. 132 because they both introduce new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows.

Regarding paper #6, the second description of figure 2 added to page 7, line 13 contradicts the first description and must be removed.

Regarding paper #14, the claimed "selecting at least one adaptation algorithm from a plurality of adaptation algorithms ... to improve at least one application-specific feature" also contradicts the original description and must be removed.

Applicant is required to cancel the new matter in the reply to this Office Action.

4. The amendment of paper #6 improperly identifies drawings to be entered into the specification. 37 CFR 1.121 has no provision for this method of making an amendment. The applicant is required to add all of the tables improperly labeled as drawings into the specification in accordance with 37 CFR 1.121.

NOTE: it is assumed that table 1A and 1B were improperly labeled as drawings 3A and 3B. The previous office action (paper #5) only referred to them as figures 3A and 3B. These tables should be separately added and numbered as six tables with appropriate text describing the labels/abbreviations.

The substitute paragraphs were entered.

Drawings

5. The drawings are objected to because figures 3A, 3B, 4A and 4B are tables of data and descriptive matter which should be part of the specification.

The addition of descriptive matter to figure 1 is objected to. Listing example features in text does serve the same purpose as showing a figure of the features.

Correction is required.

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "adaptation algorithms", "digitally-encoded speech waveform data", "acoustical model", "Hidden Markov Model", "Word Bigram Statistics", "pronunciation model", "phonetic transcription lexicon", "memory medium", "code to enable live input data reception", "applying code to apply a given adaption

algorithm to the received live input data” and “updating code” must be shown or the feature(s) canceled from the claim(s).

Listing the features (as words) noted above in text does not serve the same purpose as showing a drawing of the features. The applicant is may find it necessary to review 37 CFR 1.84 for alternatives that are acceptable as drawings.

No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claims

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-17 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while enabling for applying an adaptation algorithm, does not reasonably provide enablement for “selecting at least one adaptation algorithm from a plurality of adaptation algorithms ... to improve at least one application-specific feature”. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The specification teaches that the invention is able to utilize and adaptation algorithm.

However, the specification fails to support selecting one type of adaptation algorithm from multiple adaptation algorithms. The specification has no implementation details to instruct one of ordinary skill in the art when or how such a selection process would be performed. The specification fails to provide details describing how to perform such a selection process based on a specific application.

The language of claim 16 refers to memory "selecting code" and "updating code" and indicates that the code itself is applied and updated. The specification fails to teach how to make and use any type of code that can adapt itself. The claim indicates that "applying code to apply a given adaptation algorithm" which is interpreted as meaning that the code is actually the algorithm is some unique code. The specification ^{does not teach how to make} any such unique code.

In other words, the specification fails to support code which can not only update particular recognition data but can modify itself. This, if enabled, would allow an algorithm to modify itself and would actually change the algorithm to employ a different (modified) algorithm every time it is operated.

To further prosecution, the claim is interpreted as a computer program that implements the method using a conventional computer programming language and "updating code" is interpreted as just updating data in the speech recognizer.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-17 are rejected under 35 U.S.C. § 103 as being unpatentable over Sabourin (6,208,964) in view of Rowden ("Speech Processing").

As per claim 1, "improving the recognition accuracy of a speech recognizer" is taught or suggested by Sabourin's adaptive speech recognition (abstract):

"deploying the speech recognizer" (his speech recognition of figure 2);

"collecting live input data" (his speech source 100);

"without supervision, applying a given adaptation algorithm to the received live input data" (his adaptation module 112 which improvement is done to automate partially or fully the training of a speech recognition dictionary in a speech recognition system, col. 1, lines 10-11); and

"redeploying the adapted speech recognizer" (suggested in that he teaches that adapting the recognition system is for the purpose of improving it for later use – read abstract).

It is noted that Sabourin does not explicitly teach the "redeploying". However, he teaches that the improvement made through updating the system can be used later. Thus, it would have been obvious for a person having ordinary skill in the speech recognition, at the time the invention was made, that the updating process of Sabourin could be used to improve any speech recognition for later use because this is Sabourin's purpose for improving recognition.

It is also noted the Sabourin does not explicitly teach “selecting at least one adaptation algorithm from a plurality of adaptation algorithms ... to improve at least one application-specific feature”. However, in describing prior art systems and the application of modern techniques for adapting speech recognition, Rowden teaches that it is well known to select a suitable model and appropriate algorithms are used to compute the output of the model for a specified input (for recognition or synthesis) on page 235. This is also considered in view of his teaching on page 229 that it was well known to raise the performance of recognition by adapting the grammar depending upon the particular application. On page 229 he also teaches that by the late sixties, simple techniques could be used to train vocabulary applications with as few as ten words. Therefore, it would have been obvious to one of ordinary skill in the art to select simple adaptation techniques for applications requiring small vocabularies and to select more advanced adaptation techniques for applications requiring large vocabularies because of his figure 7.3 on page 228, figure 7.4 on page 230, figure 7.5 on page 232, figure 7.6 on page 233 and the statistical techniques on pages 235-236 which show that it was known to use different types training or updating for different applications of speech recognition. This book provides information as a treatise on speech recognition as noted above.

Claim 2: The prior art uses a computer 500, fig. 5.

Claim 3: Data may be contained in storage 500 which is not directly recognizable by a human, fig. 5.

Claim 4: Speech is not instantaneous and, therefore, must inherently be collected over time.

Claim 5, 9: The use of acoustically significant phonemes is taught in column 5.

Claim 6: The use of Hidden Markov Models is taught column 4.

Claim 7: The use of a language model is taught by his use of a lexicon 302.

Claim 8: Official Notice is taken that the use of bigram statistics is well known for use in context dependent HMM such as taught by Sabourin.

Claim 10: Transcription is taught by Sabourin (see title).

Claims 11-14 are rejected under similar arguments as applied above.

Claim 16 is presumed to be an attempt to claim a computer program that performs the previously claimed method (claim 1, for example).

REMARKS

10. The applicant's argument that the claim changes are taught on page 11, line 11 to page 12, line 3 of the specification is not convincing. The text provided defines the term "application specific features" by listing the following examples which the applicant says "are preferably speaker-independent": "channel characteristics, dialects, pronunciation idiosyncrasies, and speaking style, among others." This list is omnibus and the following examples of "adaptation algorithms": "Hidden Markov Model"; "Word Bigram Statistics" and "phonetic transcription" fail to present any details to make and use the desired algorithms limited to the features described. More importantly, the specification makes no determination which would enable one to decide which type of adaptation to use for a particular application of speech recognition.

The applicant's definition of "application specific features" using examples is not helpful. The three examples, of "dialects, pronunciation indiosyncrasies and speaking style" are so vague that they could all refer to the same thing. Furthermore, the three examples would typically refer

to pronunciations that are speaker-dependent. However, the applicant indicated that they should be speaker-independent which is contradictory evidence rendering both useless to the reader.

11. The IDS of paper #15 is redundant and merely repeats prior art already considered. This is confusing and potentially misleading to the reader.

12. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

TC2600 Fax Center
(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

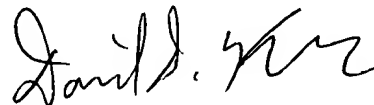
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Knepper whose telephone number is (703) 305-9644.

The examiner can normally be reached on Monday-Thursday from 07:30 a.m.-6:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (703) 305-9645.

Any inquiry of a general nature or relating to the status of this application should be directed to customer service at (703) 306-0377.

The facsimile number for TC 2600 is (703) 872-9314.



David D. Knepper
Primary Examiner
Art Unit 2654